

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 22 July 2004 (22.07.2004)

PCT

(10) International Publication Number WO 2004/062018 A1

(75) Inventor/Applicant (for US only): MIYAZAWA, Atsushi [JP/JP]; 11-417, 15-1, Morisaki 3-chome, Yokosuka-shi,

(74) Agents: MIYOSHI, Hidekazu et al.; 9th Floor, Tora-

nomon Daiichi Building, 2-3, Toranomon 1-chome, Mi-

- (51) International Patent Classification7: H01M 8/10, 2/08
- (21) International Application Number:

PCT/JP2003/015860

(22) International Filing Date:

11 December 2003 (11.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

- (81) Designated States (national): CN, KR, US.
- (84) Designated States (regional): European patent (DE, FR, GB).

(30) Priority Data:

2002-382139

27 December 2002 (27.12.2002)

Published:

(72) Inventor; and

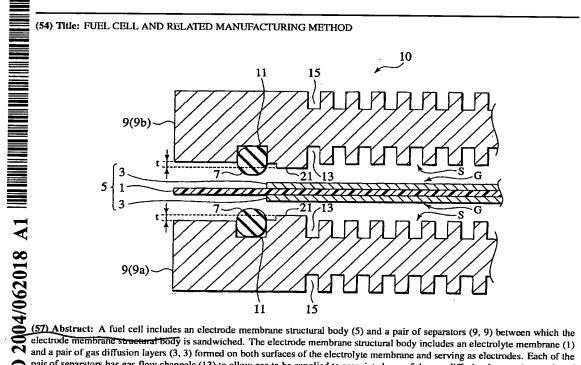
with international search report

Kanagawa 238-0023 (JP).

nato-ku, Tokyo 105-0001 (JP).

(71) Applicant (for all designated States except US): NISSAN MOTOR CO., LTD. [JP/JP]; 2, Takara-cho, Kanagawa-ku, Yokohama-shi, Kanagawa 221-0023 (JP).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



electrode membrane structural body is sandwiched. The electrode membrane structural body includes an electrolyte membrane (1) and a pair of gas diffusion layers (3, 3) formed on both surfaces of the electrolyte membrane and serving as electrodes. Each of the pair of separators has gas flow channels (13) to allow gas to be supplied to associated one of the gas diffusion layers. A porosity of the associated one of the pair of gas diffusion layers at an area outside the gas flow channels is lower than that at an area facing the gas flow channels.